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ABSTRACT

This study evaluates the effects of busing on the subsequent achievement performance of bused black students. Differences in achievement gains or losses are hypothesized as being both a function of bused students attitudes toward busing and desegregation and of the interracial climate of acceptance in the receiving schools. Findings from data gathered by various statistical analyses indicate that the achievement performance of bused black students after the two year period of busing is significantly lower than that of the non-bused black students. In two years, bused black students are said to have advanced an average of only one month in grade placement. School interracial climate and student attitudes are considered to account for the significantly lower achievement performance of the bused students. The major conclusion of this study is that mandatory busing to desegregate schools in communities with great resistance to busing may serve to weaken the achievement performance of the bused minority student. (Author/AM)

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MANDATORY BUSING AND MINORITY STUDENT ACHIEVEMENT:

NEW EVIDENCE AND NEGATIVE RESULTS

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ABSTRACT

The purpose of this study is to evaluate the effects of busing on the subsequent achievement performance of bused black students. Differences in achievement gains or losses are hypothesized as being both a function of bused student attitudes toward busing and desegregation, and of the interracial climate of acceptance in the receiving schools. The design of this study is that of a three year longitudinal panel based on before busing and after busing achievement and attitudinal measures for a sample of bused and non-bused black public school students, and white receiving public school students in Waco, Texas. Independent variables included in the tabular, correlation and regression analyses include measured intelligence, parental authority structure, educational expectations, self-concept, racial prejudice, integration attitudes, busing attitudes, school socio-economic composition, and two measures of school interracial climate. Findings reveal that the achievement performance of bused black students after the two year period of busing is significantly lower than that of the non-bused black students. In two years, bused black students have advanced an average of only one month in grade placement. School interracial climate and student attitudes account for the significantly lower achievement performance of the bused minority students. The major conclusion of this study is that mandatory busing to desegregate schools in communities with great resistance to busing may serve to weaken the achievement performance of the bused minority student.

RESEARCH PROBLEM

Court-ordered, mandatory busing to achieve school desegregation is an explosive political issue in many communities across the nation. Most of the public controversy is based on emotion rather than substantive social research. The few available studies on the effects of busing are warmly debated in academic circles. In 1972, David Armor reviewed the relevant busing research completed to that time and concluded that busing failed on four out of five measures. It did not lead to improved achievement, grades, aspirations or racial attitudes among black students. Armor concluded that mandatory busing did not lead to improved black student achievement or improved interracial relations and therefore, should not be adopted. Shortly after the publication of Armor's review, Pettigrew, Useem, Normand and Smith (1973) issued a lengthy rebuttal of Armor's interpretations and conclusions, suggesting they are not based on accurate scientific evidence. The debate, in brief, rests on whether busing as a means to desegregate schools might or does benefit minority students. Most of the studies which have found positive benefits for desegregated school settings are of situations in which desegregation has occurred gradually and integration has voluntarily been achieved. In their criticism of Armor's "evidence on busing", Pettigrew, Useem, Normand and Smith (1973) suggest methodological weaknesses in some of the data, due to two important research criteria seldom met in busing studies: longitudinal data and an adequate control group. The research reported in this paper meets both of these criteria. The overall design is that of a three year longitudinal panel of bused black students with a control group of non-bused black students as well as cross sections of white receiving school students. The question debated in the literature and the question to which this paper is addressed is whether mandatory busing to achieve rapid school desegregation is beneficial for minority students. The major hypotehsis guiding this research is that differences in

achievement gains or losses are a function of the attitudes of bused students toward integration and busing, and of the interracial climate of acceptance of the receiving school.

Major national interest in educational inequality arose with the publication of findings from the Office of Education's Educational Survey (commissioned by the Civil Rights Act of 1964) which revealed lower achievement levels for the children of racial and ethnic minority groups. In general, the major findings of the original analysis (Coleman, 1966) and secondary analysis (U.S. Commission on Civil Rights, 1967) point to the importance of the social context of the school, i.e., the socio-economic and racial-ethnic composition of the student body, for the explanation of differences in achievement. In agreement with findings of several earlier studies (Goodman, 1959; Wilson, 1959; Michael, 1961; Turner, 1964; and Boyle, 1966), the Office of Education Report (Coleman, 1966) concludes that socio-economic composition of the school's student body exerts the largest effect on student achievement scores. In their reanalysis of the survey data, McPartland and York (U.S. Commission on Civil Rights, 1967) conclude that regardless of social class, achievement scores of black students are higher as the proportion of whites in the school increases. This finding agrees with previous studies (Katz, 1964) and has been substantiated in more recent research (Armor, 1969; Pritchard, 1969; and St. John and Lewis, 1971). While Weinberg (1970:294, 304) notes a basic inconsistency between the major conclusions of the two federally sponsored reports, Pettigrew (1971:62) contends that they are significantly related, due to evidence in the Coleman Report that only one-fourth of the black population may be appropriately classified as "middle class". The relevance of these studies for government policy decisions is cited by Armor (1972) as providing the basis and justification for the use of busing to desegregate schools in the expectation of increasing black student achievement, enhancing black

self-esteem and reducing black and white prejudice and hostility. This perspective is also reflected in a former HEW secretary's statement that racial balance in schools will improve educational opportunity and achievement for minorities (Richardson, 1970:52).

While a variety of studies have indicated school desegregation has a positive effect on minority group student achievement[1] and recent Supreme Court Decisions[2] have extended the use of busing to desegregate public schools, the results of the few studies conducted to evaluate the effects of busing for minority student achievement are contradictory and inconclusive.[3] An answer to the question of whether busing is the best or even an appropriate means to ahcieve school desegregation and create an equal educational opportunity for all remains elusive and hidden. Of those researchers evaluating the utilization of busing as a means to desegregate schools and improve minority student achievement performance, several report positive findings. Improved achievement is reported by Banks and DiPasquale (1969), O'Reilly (1970), St. John (1970), Morrison and Stivers (1971) and in studies done in East Harlem and Syracuse (East Harlem Project and City Commission on Human Rights, 1962; City School District, Syracuse, 1967). Banks and DiPasquale (1969) and Wood (1969) also report bused minority students have greater interest in school and more favorable attitudes toward majority students than non-bused minority students. In addition to positive effects for bused minority students, Scudder and Jurs (1971) find no negative effects due to busing for the achievement of majority students in receiving schools.

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1 See, for example, Katz, 1964; McPartland, 1967; U.S. Commission on Civil Rights, 1967; Armor, 1969; Pritchard, 1969; Office of Civil Rights, H.E.W., 1970; Pettigrew, 1971; and St. John and Lewis, 1971.

2 See Swann v. Charlotte-Mecklenburg Board of Education, 91 S. Ct. 1267 (1971) and the discussion of recent decisions in Inequality In Education, No. 10, 1971:3-6.

3 See, for example, Weinberg's (1970:82-85) discussion of studies on the effects of busing.

Contradictory findings are reported in several studies. No significant changes in bused minority student achievement is reported by Teele, Jackson and Mayo (1966:297), Moorefield (1967:145-146), the White Plains Public Schools Study (1967), Carrigan (1969) and in the METCO study by Armor (1972). Reporting on both cross-sectional and longitudinal analyses of Riverside, California school data, Purl and Dawson (1971:3) find low and average achieving bused students achieved less in desegregated schools than in previously segregated schools. Only high achieving bused students achieved more in desegregated settings although this increase was not large enough to reduce the gap between majority and minority student achievement levels. Purl and Dawson (1971:2) conclude the achievement gap between majority and minority students is as high in 1970 as it was in 1966.

A partial explanation for these contradictory findings is suggested in the works of Katz (1964) and concerns the motivational dimension. Katz maintains that psychological stress and anxiety experienced by blacks in competition with whites may retard or impair achievement motivation among those blacks with poor self-concepts. This was confirmed in a later analysis in which Katz (1968:59) reports low achievers among minority group students have more negative self-concepts and self-evaluation. A similar finding is presented in the Coleman Report (1966: 323-324) in which the student's sense of control of his environment (an aspect of self-concept) is positively associated with achievement scores. In addition to individual psychological differences with respect to self-concept, social context differences of the schools are also important for the explanation of these contradictory findings. Interactionist theory suggests the responses of others are of crucial influence in shaping and modifying self-concept. The socio-economic and racial-ethnic composition of the student body of a school constitute critical social contexts. Coleman (1966:303-304) suggests that higher educational aspirations of the student body in "middle class" schools serve to increase the level of achievement

of minority students in such schools. In a review of literature on the effects of integration on the academic performance of blacks, Katz (1964) reasons that integrated schools may provide new comparison levels for black self-evaluation. The acceptance or rejection of minority students by majority students, however, may provide support or interference for the minority student's motivation to achieve. Pettigrew (1971:73-74) suggests the opportunity for cross-racial evaluation in desegregated schools leads to advances in achievement only if such comparisons occur in contexts which reflect majority student acceptance. Thus, in addition to the socio-economic and racial-ethnic climate of the school, the interracial climate of acceptance is an important social context to be evaluated.

The degree of acceptance or rejection experienced by black bused students, as well as the attitudes of bused students towards their receiving schools are conceptualized as crucial components of the normative, interracial climate of the receiving schools. This dimension is reflected in Pettigrew's (1971:63) distinction between desegregated and integrated school settings. Whereas desegregation refers to the quantitative dimensions of racial composition, integration refers to the qualitative dimension of interracial contact and the degree of mutual cooperation among the student body and staff. Integrated schools in which interracial acceptance is warm and positive and in which mutual cooperation has developed over time are held to be conducive to improving minority student achievement. Desegregated schools, in which desegregation occurs abruptly, as with mandatory busing, may be non-effective for this purpose. In Moorefield's (1967) study of busing in Kansas City (in which no achievement gains were found), three-fourths of the bused students were given low ratings on a receiving student acceptance scale. Two-thirds of the bused students were regarded as "aggressive" by white receiving students (Moorefield, 1967:167). Lower self-concepts were also observed among bused black students in schools in which acceptance by white receiving students was also low

(Moorefield, 1967:166). Purl and Dawson (1971:18) suggest that the lack of increase in achievement among bused students in Riverside, California, might be due to the lack of programs in desegregated schools to provide for a smooth transition of bused students to the new school's social structure. Whether the effect of busing is positive or negative for minority student achievement appears to be a function of the attitudes of the bused student toward busing and the new school, as well as the normative, interracial climate of acceptance or rejection communicated by the receiving school's students and staff.

PROCEDURES

The overall design of this research is a three year longitudinal panel study. The first and original wave of data collection in the Spring of 1971 was conceived as a simple cross-section design to study the determinants of majority and minority student achievement levels and consisted of a stratified random sample of 850 majority and minority students from Waco Public Schools. This sample included 300 white students, 300 black students and 250 Mexican-American students. During the summer of 1971, federal courts ordered the Waco Independent School District to bus 1600 black students to previously all white schools to create a more favorable racial balance. Approximately 125 black students from the original sample of 300 were to be bused. Data for the second wave were collected in the Spring of 1972 from two separate samples of respondents. To provide for the longitudinal aspects of the study, 240 black students from the original sample of 300 (125 of the 240 are bused students) were resurveyed to provide a second measure of integration attitudes and self-concept. The second sample of respondents consisted of a random, cross-section of majority students from each school. Data from this sample were used to construct aggregative measures of school socio-economic and normative climates. Data for the third and final wave were collected

in the Spring of 1973 and are composed of two types. The first type consists of 55 bused students and 62 non-bused black students from the original sample. The remainder of those surveyed in 1971 and 1972 had either dropped out of school, transferred or graduated. The 117 were retested with the California Achievement Test and were resurveyed for the third time. The second type of data collected in the third wave consists of a random cross-section of students from each school to provide for the construction of additional aggregate measures of the school's social context. Thus, before (1971) and after (1973) busing measures, allow this study to approximate a classical design. Means, standard deviations, percentages and operational definitions of all variables are presented in Table 1.

TABLE 1

Tabular, correlation and regression analyses are used to portray graphically significant relationships and to permit an interpretation of the data in which the relative effects of individual and contextual attributes may be weighed and evaluated with other factors controlled. Regression analysis is used to identify those variables contributing the largest amount of variance to the dependent variables of student achievement. Factor analytic techniques are used to construct several scales and indices.

FINDINGS - ACHIEVEMENT DIFFERENCES

Measures used for achievement in this study are the scores for total math, total reading and total battery from the Intermediate and Advanced forms of the California Achievement Test. Achievement scores of bused and non-bused black students before and after the busing period are presented in Table 2.

TABLE 2

One would not expect large differences in achievement scores prior to busing if students had been randomly selected for busing assignment. The Intermediate form of the CAT was administered as part of the normal school testing program, and was

administered by school district personnel at least one year prior to busing. Differences in scores between the two groups, as revealed by t-tests, are not statistically significant, although non-random assignment policies exercise an obvious effect, with students to be bused having somewhat lower achievement scores. Since none of these differences are statistically significant, they are considered to be inconsequential in substance. The Advanced form of the CAT was administered after the two year period of busing. Differences in mean achievement scores are noted between bused and non-bused black students, with bused students having significantly lower scores than non-bused students. Two general observations need to be made at this point. First, test scores for both groups have declined by the end of the study period. Part of the reason for this is due to the use of different forms of the CAT. While the conversion of raw scores to grade placements overcomes this difficulty, raw scores are utilized in the remainder of the analysis in this paper since they permit the use of measures of statistical significance and score differences between test forms are correlated with standard score declines. Thus, while the minority students in this study have advanced in grade placement during the two year period between test administrations, they have declined in achievement performance when compared with national norms (Lamkin, 1975). Grade placement comparisons indicate non-bused black students have advanced in achievement performance, bused black students have not. The second observation to be made is that differences in achievement levels between bused and non-bused student groups have widened. Whereas only 5 points separate the mean total battery scores for example between the two groups prior to busing, a 33 point difference is observed between these groups after the period of busing. Transformed into grade placements, data in Table 2 show that non-bused black students have advanced an average of one year (with the exception of math) compared with an average advancement of only one month (exception of math) for bused black students. The final

column of the table contains raw scores corrected for test form differences; scores which reveal the extent of the disparity between bused and non-bused black student achievement performance. Whereas non-bused black students raised their total battery scores on the average by 9.14 points, bused black student total battery scores declined on the average by 10.02 points.

Rival explanations concerning the influence of busing status on achievement performance and/or achievement performance change include the respondent's sex, grade in school, age, measured intelligence and parental socio-economic status. All of these variables were investigated to see whether they were significantly related to achievement differences, and in particular, to the differences between bused and non-bused student achievement. Of all of these variables, statistical tests showed only one to be significantly related to achievement scores, viz., measured intelligence. The effect of measured I.Q. is as expected, with students having higher intelligence manifesting higher achievement for all three measures. The question of whether measured I.Q. accounts for all, part, or none of the difference in mean achievement between bused and non-bused black students is addressed in Table 3.

TABLE 3

Significant differences in the 1973 achievement performance of bused and non-bused students persist (with the exception of differences in math scores among lower I.Q. students). The magnitude of the difference in mean achievement scores between high and low I.Q. students is larger than mean score differences between bused and non-bused students. Obviously, I.Q. is a major determinant of achievement. Even with I.Q. controlled, however, significant achievement differences between bused and non-bused students remain. Data in the second column of the table also indicate that measured I.Q. is a major determinant of change in achievement performance. Even with measured I.Q. controlled, busing status exerts a statistically significant effect on student achievement (with the exception of math

score change). Non-bused black students on the average show achievement score gains; bused black students, achievement score declines. Controls for measured I.Q., therefore, do not explain away the significant differences in achievement performance of bused and non-bused black students. Busing black students to previously all white schools in Waco, Texas has not improved the achievement performance of the bused students. Busing, in this study, appears to have eroded the achievement performance of the bused minority student. This negative finding requires additional analysis for an explanation. Part of this analysis rests with the attitudinal and motivational dimension mentioned previously.

FINDINGS - ATTITUDINAL DIFFERENCES

As suggested in the review of busing studies by Armor (1972), changes in interracial attitudes and black self-esteem may be as important an effect of desegregation as changes in achievement. In addition, the importance of this dimension, as cited in the works of Katz (1964, 1968) and Pettigrew (1971), may provide a partial explanation for the negative findings of this research study. The attitudes and self-concept of bused black students are held to influence the development of subsequent achievement. Table 4 presents bused and non-bused black student responses to items soliciting their attitudes toward busing and school desegregation.

TABLE 4

Table 4 reveals that 59% of the bused black students have negative attitudes toward busing compared with only 40% of non-bused students. Whereas only 34% of bused black students have neutral attitudes toward busing, over one half of the non-bused black students are neutral. Seventy percent of the non-bused black students have positive attitudes toward school desegregation, only 34.5% of the bused black students view school desegregation positively. Differences between bused and non-bused black student attitudes on these items were not significantly

different prior to the period of busing in the first wave of data collection. Another indicator of minority student attitudes toward busing and school desegregation is reflected in the respondent's preference as to the type of racial mixture in the school. Table 5 presents the responses of minority students in this study toward preferred school racial mix.

TABLE 5

Differences in responses between the two groups are significant with bused students choosing the all black category more than any other setting. The largest response category for non-bused black students is the integrated setting. Differences between the groups on this item prior to busing, were not significant. After two years of busing, significant attitudinal differences appear, with bused students exhibiting more negative attitudes toward busing and school desegregation, favoring a change from an integrated model of education to a separatist model of education. For the bused student in this study, busing appears to have eroded attitudes toward integration and school desegregation. Thus, the negative attitudes of bused students provide a logical explanation of their negative achievement performance results.

In addition to the attitudes of bused minority students, the interracial climate of acceptance of the receiving school is another critical variable for the explanation of the negative achievement findings in this study. The attitudes of white students in receiving schools are especially important to understanding the reception given black students. If the attitudes of white students in receiving schools are more negative than white students in non-receiving schools, the experiences of bused black students will be more negative. Table 6 portrays the attitudes of white students toward integration by receiving school status.

TABLE 6

General racial integration is viewed positively by 62% of the white students. Differences between white students from non-receiving and receiving schools indicate

that whites in receiving schools have the most negative attitudes toward integration. From other items for which tables are not included, white receiving school students differed from white non-receiving school students in having less favorable attitudes toward school desegregation and busing, lower perceptions of teacher interest and a stronger desire for an all white school. The proposition strongly suggested by the data is that the attitudes of white students toward integration are strongly influenced by the type of school attended. While not the main purpose of this study, it is interesting to note that those schools which were gradually desegregated (the case with most of the non-receiving schools in this study) contained the highest proportion of white students favoring integration. Schools that were rapidly desegregated (the receiving schools in this study) had a smaller proportion of white students favoring integration.

Two approaches were utilized to combine student responses into an index of the normative climate of interracial acceptance of the school. The first approach combined the responses of white students to selected attitudinal items into an index designed to measure the "objective" quality of the interracial climate. Dividing the index score at the median and crosstabulating with receiving school status produces the data included in Table 7.

TABLE 7

While the number of schools in each category is small, the trend is clear. Receiving schools have less receptive interracial climates.

The second approach to the measurement of the interracial climate taps the subjective dimension. Regardless of the "objective" interracial climate, it is the individual minority student's perception of that climate, whether it corresponds to the objective measure or not, that will exert the greatest effect on the student's subsequent attitude formation and educational experience. This "subjective" measure is derived from a factor analysis of selected items. Data for this factor, crosstabulated with student busing status, are presented in Table 8.

While student's perceptions vary, certain patterns are present. Bused black students are more likely to perceive the interracial climate of their schools as hostile than non-bused black students. Non-bused black student perceptions are significantly more positive. The objective and subjective measures of the school's interracial climate, as well as bused student attitudes, offer a basic explanation for the negative findings with respect to bused student achievement.

ANALYSIS AND DISCUSSION

Correlation and regression measures and analysis are used to evaluate the effects of the variety of independent factors considered in this study of student achievement performance. Recent discussions concerning the issues of the confounding of differential measurement error with change, of ordinal measurement and parametric statistics, and of standardized versus unstandardized regression coefficients, however, introduce a note of caution concerning precise quantitative interpretation of the obtained coefficients (Blalock, 1967; Schoenberg, 1972). Table 9 presents standardized and unstandardized coefficients for separate regressions for each of the dependent variable measures of 1973 achievement performance.

TABLE 9

Standardized regression coefficients are generally preferred if one is interested in the relative amount of variance explained in a given sample by a variety of independent variables. Coefficients in this table have been summed to show the total effect of non-interval scale parent variables (Lyons, 1971). It is interesting to note that the socio-economic composition of the school (X_8) is a significant determinant of reading scores (X_{21}), but not of math scores (X_{20}) or total battery scores (X_{22}). The Coleman Report, which produced a great deal of discussion con-

cerning the importance of a school's socio-economic climate, used reading scores as its primary measure for the analysis of the determinants of achievement performance. Several factors exercise consistent strength across all measures of achievement in this study. The most important of these is measured intelligence (X_{15}). The magnitude of the standardized regression coefficient indicates that measured intelligence contributes the largest amount of variance for each of the measures of achievement. The second most important factor for the explanation of variance in 1973 achievement is the 1971 achievement performance of the student (X_{17}, X_{18}, and X_{19} respectively). As expected, students with higher levels of measured intelligence and higher 1971 test scores, demonstrate higher achievement performance in 1973. The third most important contributor to variance in achievement is the student's busing status (X_{16}). It is important to underscore that the effect of busing status is observed with the influence of all of the other factors (measured intelligence, family SES, etc.) held constant. Two additional variables exercise moderate effects for each of the dependent variables: self-concept (X_9) and the student's racial prejudice level (X_7). Consistantly, lower achievement scores are associated with higher levels of racial prejudice and less positive self-concept.

Unstandardized regression coefficients are also included in Table 9. While their utilization raises the issue of comparable units of measurement, they are included to indicate the magnitude of effect each of the variables exercises on student achievement performance. An unstandardized regression coefficient may be interpreted as the expected change in the dependent variable with a change of one unit in the independent variable under consideration, with the effects of other independent variables controlled. With respect to the effect of the busing status of the student (X_{16}), it is observed that an increase of one unit of busing status (a change from non-bused to bused status) produces a decrease of

of 9.156 units on the average of test score points for the dependent variable of total achievement battery test scores (X_{22}). For each of the dependent variables, the unstandardized regression coefficient for busing status indicates that busing status exercises a relatively important effect on subsequent achievement performance. To summarize Table 9, bused minority students did less well than non-bused minority students after the two year period of busing. The majority of bused students experienced a decline in achievement. Those minority students with the poorest achievement performance in 1973 had a combination of lower measured intelligence, bused status, higher racial prejudice level, less positive self-concept, came from families with authoritarian power structures, perceived their school's interracial climate as non-accepting and came from lower status families that did not encourage educational performance.

While the interpretation of standardized regression coefficients is confounded by differing variances of variables when a sample is broken down into two or more subsamples, standardized and unstandardized regression coefficients are presented for the subsamples of bused and non-bused minority students in Table 10, in an effort to ascertain the configuration of variables or the model for each group.

TABLE 10

The interpretation of this table should be considered to be qualitative only, due to the above mentioned restriction. While it is not appropriate to compare the magnitudes of standardized regression coefficients across the two subsamples, it is appropriate to comment upon the different configuration of variables that exercise the largest effect on achievement performance within each of the two subsamples. As expected, measured intelligence (X_{15}) and 1971 test battery scores (X_{19}) explain a large amount of variance for 1973 battery scores (X_{22}) for both

groups. For the non-bused minority student, the three next most important variables are parental discipline and socialization, parental authority structure and student self-concept. For the bused minority student, however, the three next most important contributors are perception of the school's interracial climate, racial prejudice level and the school's socio-economic climate. Thus, while family socialization and student self-concept variables contribute the most to non-bused student achievement, a different set of variables exerts influence on bused student achievement. It appears as if the immediate effects of busing for the subsequent achievement performance of minority students replaces the importance of family variables or at least overshadows their importance with the student's attitudes toward being bused and/or his or her reaction to being bused.

SUMMARY AND CONCLUSIONS

After a passage of two years, during which time some of the minority students in this study were bused to previously all white schools, bused black students showed a statistically significant decline in three measures of achievement. Controls for age, sex, grade, parental socio-economic status and measured intelligence failed to erase the significance of this difference. Investigation of the attitudes of minority students revealed significant differences between bused and non-bused student attitudes toward several factors. Bused minority students were more likely to have negative attitudes toward busing, school desegregation and an integrated model of education. White receiving school students had significantly more negative attitudes toward integration than their white non-receiving school counterparts. Regression analysis confirmed the negative effects of busing for the subsequent achievement performance of minority students. A causal model was suggested in which minority student experiences in receiving and non-receiving schools, along with their own attitudes toward integration and desegregation, contributes to achievement differences.

Ultimately, the cause of the difference in minority student experiences rests with the dominant attitudes in the larger community. If busing serves as a political catalyst to generate negative feelings, then the public resistance to busing, both white and black resistance, becomes a likely explanation for the negative findings reported in this study.

Recently, several criticisms of the effort to achieve equality of educational opportunity through the use of mandatory busing to desegregate public schools have appeared in the press. In a forthcoming report for the Urban Institute, James Coleman suggests that mandatory busing has not achieved the school desegregation that had been planned. In the report to be known as Coleman II, he indicates the only major result from the use of mandatory busing is the white flight to the suburbs, which has increased the segregated nature of urban public education. Jencks (1975), in a reanalysis of the 1966 EEOS data, reports that academic selectivity and entering differences explains away most of the effects of the socio-economic and racial composition of the school for minority student achievement. Jencks reanalysis shows that the racial composition of the high school does not have any appreciable effect for either black or white student achievement test scores.

The major conclusion of this study is that the use of mandatory busing to desegregate schools has a negative effect on minority student achievement; an effect which is highly influenced by the attitudes of white receiving school students, as well as the bused minority students themselves. Once the use of mandatory busing becomes an emotionally clouded, political issue in a community, its use may have detrimental effects for the subsequent achievement performance of the bused minority student. Mandatory busing, to be an effective means to provide an equal educational opportunity for all, needs to have the support of the majority of the citizenry. When mandatory busing does not have this community support, the results appear to be

white flight to the suburbs and lower achievement of the bused students. If, as in this study in Waco, mandatory busing is used for rapid school desegregation and there is strong resistance to such busing, then the results are likely to replicate the weakened achievement performance of the bused minority students in this study.